

DEEP-SEA RESEARCH

VOLUME 35, 1988

VOLUME CONTENTS AND AUTHOR INDEX

Editor

DR JOHN D. MILLIMAN: *Department of Geology and Geophysics,
Woods Hole Oceanographic Institution, Woods Hole, MA 02543, U.S.A.*

Founder Editor: DR MARY SEARS



PERGAMON PRESS

**OXFORD · NEW YORK · BEIJING · FRANKFURT · SÃO PAULO
SYDNEY · TOKYO · TORONTO**

DEEP-SEA RESEARCH

Editor

DR JOHN D. MILLIMAN: *Department of Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, MA 02543, U.S.A.*

Associate Editors

M. P. BACON (*Chemistry*)
*Woods Hole Oceanographic Institution,
Woods Hole, MA 02543, U.S.A.*

R. P. HARRIS (*Water Column Biology*)
*Marine Biological Association,
Citadel Hill, Plymouth PL1 2PB, U.K.*

R. HESSLER (*Benthic Biology*)
*Scripps Institution of Oceanography,
La Jolla, CA 92093, U.S.A.*

W. ZENK (*Physical Oceanography*)
*Institut für Meereskunde,
Düsternbrooker Weg 20, 2300 Kiel 1, F.R.G.*

A. SOURNIA (*Water Column Productivity*)
*Laboratoire de Géologie,
Muséum National d'Histoire Naturelle,
43, Rue de Buffon, 75005 Paris, France*

R. KÄSE (*Oceanic Modelling*)
*Institut für Meereskunde, Düsternbrooker
Weg 20, 2300 Kiel 1, F.R.G.*

Founder Editor: DR MARY SEARS

Publishing, Subscription and Advertising Offices: *Headington Hill Hall, Oxford OX3 0BW, U.K.*
(Oxford 64881)

Published monthly

Annual institutional subscription rate (1989) DM 1845.00; two-year institutional rate (1989/90) DM 3505.50 (this includes Parts A and B, and postage and insurance).

Personal subscription rate for those whose library subscribes at the regular rate (1989) DM 257.00 (this includes Parts A and B). Prices are subject to change without notice.

Back issues of all previously published volumes are available direct from Pergamon Press. Back issues of Pergamon journals in microform can be obtained from UMI, 300 North Zeeb Road, Ann Arbor, MI 48106, U.S.A.

Subscription enquiries from customers in North America should be sent to: *Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.* and for the remainder of the world to: *Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, U.K.*

*Copyright © 1988
Pergamon Press plc*

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Photocopying information for users in the U.S.A.

The Item-fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying, beyond that permitted by Section 107 or 108 of the United States Copyright Law, is paid. The appropriate remittance of \$3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970.

Permission for other use.

The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-Fee Code for this publication is: 0198-0149/88 \$3.00 + 0.00.

Contents of Volume 35

January

- | | |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G. A. FRYXELL and G. A. KENDRICK | 1 Austral spring microalgae across the Weddell Sea ice edge: spatial relationships found along a northward transect during AMERIEZ 83 |
| K. L. DALY and M. C. MACAULAY | 21 Abundance and distribution of krill in the ice edge zone of the Weddell Sea, austral spring 1983 |
| I. WALSH, J. DYMOND and R. COLLIER | 43 Rates of recycling of biogenic components of settling particles in the ocean derived from sediment trap experiments |
| I. WALSH, K. FISCHER, D. MURRAY and J. DYMOND | 59 Evidence for resuspension of rebound particles from near-bottom sediment traps |
| C. SANCETTA and S. E. CALVERT | 71 The annual cycle of sedimentation in Saanich Inlet, British Columbia: implications for the interpretation of diatom fossil assemblages |
| T. HAMA | 91 ^{13}C -GC-MS analysis of photosynthetic products of the phytoplankton population in the regional upwelling area around the Izu Islands, Japan |
| B. M. HOWE and W. H. MUNK | 111 Deep-sea moorings in a tidal current |
| J. L. CHARLOU, L. DMITRIEV, H. BOUGAULT and H. D. NEEDHAM | 121 Hydrothermal CH_4 between 12°N and 15°N over the Mid-Atlantic Ridge |
| <i>Instruments and Methods</i>
S. HONJO and K. W. DOHERTY | 133 Large aperture time-series sediment traps; design objectives, construction and application |
| List of Contents for <i>Continental Shelf Research</i> , Vol. 8, No. 1 | i |

February

- | | |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| A. GENIN, L. HAURY and P. GREENBLATT | 151 Interactions of migrating zooplankton with shallow topography: predation by rockfishes and intensification of patchiness |
| J. H. MARTIN and R. M. GORDON | 177 Northeast Pacific iron distributions in relation to phytoplankton productivity |
| R. FUHRMANN and A. ZIRINO | 197 High-resolution determination of the pH of seawater with a flow-through system |
| G. A. JACKSON and P. M. WILLIAMS | 209 Measures of net oxidant concentration in seawater |
| B. D. HONEYMAN, L. S. BALISTRERI and J. W. MURRAY | 227 Oceanic trace metal scavenging: the importance of particle concentration |

C. ANDRIE and L. MERLIVAT

W. D. NOWLIN, Jr and W. ZENK

Note

M. FIEUX and J. C. SWALLOW

List of Contents for *Continental Shelf Research*, Vol. 8, No. 2

247 Tritium in the western Mediterranean Sea during 1981 *Phycemed* cruise

269 Westward bottom currents along the margin of the South Shetland Island Arc

303 Flow of deep water into the Somali Basin

i

March

R. A. FINE, M. J. WARNER and
R. F. WEISS

L. HARENDUPRAKASH and
A. K. MITRA

W. M. SMETHIE, Jr,
D. W. CHIPMAN, J. H. SWIFT and
K. P. KOLTERMANN

T. T. PACKARD, M. DENIS,
M. RODIER and P. GARFIELD
A. SY

F. W. STEIMLE, Jr and
R. J. TERRANOVA

R. J. OLSON, S. W. CHISHOLM,
E. R. ZETTLER and E. V. ARMBRUST

A. ALMOGI-LABIN, Ch. HEMLEBEN and
W. G. DEUSER

Note

P. D'HEILLY, C. MILLOT,
A. MONACO and H. GOT

List of Contents for *Continental Shelf Research*, Vol. 8, No. 3

311 Water mass modification at the Agulhas Retroflection: chlorofluoromethane studies

333 Vertical turbulent mass flux below the sea surface and air-sea interaction—monsoon region of the Indian Ocean

347 Chlorofluoromethanes in the Arctic Mediterranean seas: evidence for formation of bottom water in the Eurasian Basin and deep-water exchange through Fram Strait

371 Deep-ocean metabolic CO₂ production: calculations from ETS activity

383 Investigation of large-scale circulation patterns in the central North Atlantic: the North Atlantic Current, the Azores Current, and the Mediterranean Water plume in the area of the Mid-Atlantic Ridge

415 Energy contents of northwest Atlantic continental slope organisms

425 Analysis of *Synechococcus* pigment types in the sea using single and dual beam flow cytometry

441 Seasonal variation in the flux of euthecosomatous pteropods collected in a deep sediment trap in the Sargasso Sea

465 Hydrodynamic study of the furrow of the Petit Rhône canyon

i

April

Rapid Response Paper

A. F. MICHAELS and M. W. SILVER

Research Papers

D. M. ALONGI and M. PICHON

H. SASAKI, H. HATTORI and
S. NISHIZAWA

S. M. LIBES and W. G. DEUSER

M. A. ALTABET

J. TAYLOR

T. SUGIMOTO and T. ICHIYE

H. M. VAN AKEN

J. R. E. LUTJEHARMS and
A. J. DA SILVA

List of Contents for *Continental Shelf
Research*, Vol. 8, No. 4

473 Primary production, sinking fluxes and the
microbial food web

491 Bathyal meiobenthos of the western Coral Sea:
distribution and abundance in relation to microbial
standing stocks and environmental factors

505 Downward flux of particulate organic matter and
vertical distribution of calanoid copepods in the
Oyashio Water in summer

517 The isotope geochemistry of particulate nitrogen
in the Peru Upwelling Area and the Gulf of Maine

535 Variations in nitrogen isotopic composition between
sinking and suspended particles: implications for
nitrogen cycling and particle transformation in the
open ocean

555 The fluxes across a diffusive interface at low
values of the density ratio

569 On seasonal and year-to-year variations of the Loop
Current and eddy formation in the Gulf of Mexico
based on rotating model experiments

595 Transports of water masses through the Faroese
Channels determined by an inverse method

619 The Delagoa Bight eddy

i

May

Editorial

J. D. MILLIMAN

Research Papers

B. G. MITCHELL and D. A. KIEFER

B. G. MITCHELL and D. A. KIEFER

A. L. NEW

R. A. WELLER and J. F. PRICE

H. A. BUCKLEY and L. R. JOHNSON

635 Trends in oceanographic journals: *Deep-Sea
Research* at 35 years

639 Chlorophyll *a* specific absorption and
fluorescence excitation spectra for light-limited
phytoplankton

665 Variability in pigment specific particulate
fluorescence and absorption spectra in the
northeastern Pacific Ocean

691 Internal tidal mixing in the Bay of Biscay

711 Langmuir circulation within the oceanic mixed
layer

749 Late Pleistocene to Recent sediment deposition in
the central and western Mediterranean

B. COSTE, P. LE CORRE and
H. J. MINAS

D. M. KARL, G. T. TAYLOR,
J. A. NOVITSKY, H. W. JANNASCH,
C. O. WIRSEN, N. R. PACE,
D. J. LANE, G. J. OLSEN and
S. J. GIOVANNONI

S. E. LOHRENZ, D. A. WIESENBERG,
I. P. DEPALMA, K. S. JOHNSON and
D. E. GUSTAFSON, Jr

E. BAUER and G. SIEDLER

Instruments and Methods

J. L. BULLISTER and R. F. WEISS

767 Re-evaluation of the nutrient exchanges in the
Strait of Gibraltar

777 A microbiological study of Guaymas Basin high
temperature hydrothermal vents

793 Interrelationships among primary production,
chlorophyll, and environmental conditions in
frontal regions of the western Mediterranean Sea

811 The relative contributions of advection and
isopycnal and diapycnal mixing below the
subtropical salinity maximum

839 Determination of CCl_3F and CCl_2F_2 in seawater
and air

June

Rapid Response Papers

T. PLATT, S. SATHYENDRANATH,
C. M. CAVERHILL and M. R. LEWIS

A. R. LONGHURST and
W. G. HARRISON

G. WEFER, G. FISCHER, D. FÜETTERER
and R. GERSONDE

Research Papers

A. KLAUS and M. T. LEDBETTER

J. D. MILLIMAN

S. D. SACHS and B. B. ELLWOOD

R. D. FLOOD and A. N. SHOR

R. D. FLOOD

P. H. WIEBE, N. COPLEY,
C. VAN DOVER, A. TAMSE and
F. MANRIQUE

D. THISTLE

855 Ocean primary production and available light:
further algorithms for remote sensing

881 Vertical nitrogen flux from the oceanic photic
zone by diel migrant zooplankton and nekton

891 Seasonal particle flux in the Bransfield Strait,
Antarctica

899 Deep-sea sedimentary processes in the Argentine
Basin revealed by high-resolution seismic records
(3.5 kHz echograms)

919 Correlation of 3.5 kHz acoustic penetration and
deposition/erosion in the Argentine Basin: a note

929 Controls on magnetic grain-size variations and
concentration in the Argentine Basin, South
Atlantic Ocean

943 Mud waves in the Argentine Basin and their
relationship to regional bottom circulation patterns

973 A lee wave model for deep-sea mudwave activity

985 Deep-water zooplankton of the Guaymas Basin
hydrothermal vent field

1015 A temporal difference in harpacticoid-copepod
abundance at a deep-sea site: caused by benthic
storms?

G. M. R. MANZELLA, G. P. GASPARINI
and M. ASTRALDI

T. A. VILLAREAL

Instruments and Methods

Y. C. AGRAWAL and C. J. BELTING

Note

K. G. SPEER and J. A. WHITEHEAD

1021 Water exchange between the eastern and western
Mediterranean through the Strait of Sicily

1037 Positive buoyancy in the oceanic diatom
Rhizosolenia debaryana H. Peragallo

1047 Laser velocimetry for benthic sediment transport

1069 A gyre in a non-uniformly heated rotating fluid

July

Rapid Response Paper

C. M. TURLEY, K. LOCHTE and
D. J. PATTERSON

1079 A barophilic flagellate isolated from 4500 m in the
mid-North Atlantic

Research Papers

E. UCHUPI, M. T. MUCK and
R. D. BALLARD

1093 The geology of the Titanic site and vicinity

T. T. PACKARD, H. J. MINAS,
B. COSTE, R. MARTINEZ,
M. C. BONIN, J. GOSTAN,
P. GARFIELD, J. CHRISTENSEN,
Q. DORTCH, M. MINAS,
G. COPIN-MONTEGUT and
C. COPIN-MONTEGUT

1111 Formation of the Alboran oxygen minimum zone

R. W. EPPLEY and E. H. RENGIER

1119 Nanomolar increase in surface layer nitrate
concentration following a small wind event

B. B. WARD and O. C. ZAFIRIOU

1127 Nitrification and nitric oxide in the oxygen
minimum of the eastern tropical North Pacific

D. QUADFASEL, B. RUDELS and
K. KURZ

1143 Outflow of dense water from a Svalbard fjord into
the Fram Strait

H. PAK, D. A. KIEFER and
J. C. KITCHEN

1151 Meridional variations in the concentration of
chlorophyll and microparticles in the North
Pacific Ocean

P. JENSEN

1173 Nematode assemblages in the deep-sea benthos of
the Norwegian Sea

S. VAN DER SPOEL and
P. H. SCHALK

1185 Unique deviations in depth distribution of the
deep-sea fauna

A. KAMATANI, N. EJIRI and
P. TREGUER

1195 The dissolution kinetics of diatom ooze from the
Antarctic area

Instruments and Methods

D. J. CARLSON, J. L. CANTEY and
J. J. CULLEN

1205 Description of and results from a new surface
microlayer sampling device

Note

P. S. RAO, Ch. M. RAO and
N. P. C. REDDY

1215 Pyritized ooids from the Arabian Sea Basin

August

Rapid Response Papers

S. HONJO, S. J. MANGANINI and
G. WEFER

L. A. MAYER, A. N. SHOR,
J. HUGHES CLARKE and
D. J. W. PIPER

J. R. N. LAZIER

T. M. JOYCE, R. LUKAS and
E. FIRING

W. ZENK and T. J. MÜLLER

Research Papers

M. BERSCH

W. G. SUNDA and S. A. HUNTSMAN

R. M. SHERRELL and E. A. BOYLE

A. FOLDVIK, K. AAGAARD and
T. TØRRESEN

E. H. SCHUMANN and
I. L. VAN HEERDEN

S. TAGUCHI, G. R. DiTULLIO and
E. A. LAWS

C. W. BÖNING

T. A. PROBYN

Instruments and Methods

R. H. BYRNE, G. ROBERT-BALDO,
S. W. THOMPSON and C. T. A. CHEN

M. B. JORDAN

Notes

P. ALGARRA, M. ESTRADA and
F. X. NIELL

1223 Annual particle flux and a winter outburst of
sedimentation in the northern Norwegian Sea

1235 Dense biological communities at 3850 m on the
Laurentian Fan and their relationship to the
deposits of the 1929 Grand Banks earthquake

1247 Temperature and salinity changes in the deep
Labrador Sea, 1962–1986

1255 On the hydrostatic balance and equatorial
geostrophy

1259 Seven-year current meter record in the eastern
North Atlantic

1269 On deep convection in the Weddell Gyre

1297 Effect of sunlight on redox cycles of manganese in
the southwestern Sargasso Sea

1319 Zinc, chromium, vanadium and iron in the
Mediterranean Sea

1335 On the velocity field of the East Greenland
Current

1355 Observations of Agulhas Current frontal features
south of Africa, October 1983

1363 Physiological characteristics and production of
mixed layer and chlorophyll maximum phyto-
plankton populations in the Caribbean Sea and
western Atlantic Ocean

1379 Characteristics of particle dispersion in the North
Atlantic: an alternative interpretation of SOFAR
float results

1387 Nitrogen utilization by phytoplankton in the
Namibian upwelling region during an austral spring

1405 Seawater pH measurements: an at-sea comparison
of spectrophotometric and potentiometric methods

1411 A new submersible recording scalar light sensor
array

1425 Phycobiliprotein distribution across the western
Mediterranean divergence

R. MUKHOPADHYAY and
B. NAGENDERNATH

J. C. SWALLOW and R. T. POLLARD

Rapid Response Paper

R. A. FINE and R. L. MOLINARI

Research Papers

J. M. TOOLE, E. ZOU and
R. C. MILLARD

D. NOF

M. RHEIN and R. SCHLITZER

M. I. SCRANTON

D. M. GLOVER and P. G. BREWER

M. A. PARANJAPÉ

J. E. ECKMAN and D. THISTLE

N. M. PRICE and P. J. HARRISON

R. W. GOULD, Jr

W. K. W. LI and A. M. WOOD

M. C. KENNICUTT II, J. M. BROOKS,
R. R. BIDIGARE and G. J. DENOUEX

T. ROSSBY

S. A. THORPE and M. WHITE

Note

G. A. BOTTOMLEY

List of Contents for *Continental Shelf
Research*, Vol. 8, Nos 5–7 and 8

1431 Influence of seamount topography on the local
facies variation in ferromanganese deposits in the
Indian Ocean

1437 Flow of bottom water through the Madagascar
Basin

September

1441 A continuous deep western boundary current
between Abaco (26.5°N) and Barbados (13°N)

1451 On the circulation of the upper waters in the
western equatorial Pacific Ocean

1483 The propagation of "streamers" along the
periphery of warm-core rings

1499 Radium-266 and barium sources in the deep East
Atlantic

1511 Temporal variations in the methane content of the
Cariaco Trench

1525 Estimates of wintertime mixed layer nutrient
concentrations in the North Atlantic

1547 Microzooplankton in Lancaster Sound (eastern
Canadian Arctic) in summer: biomass and distri-
bution

1565 Small-scale spatial pattern in meiobenthos in the
San Diego Trough

1579 Urea uptake by Sargasso Sea phytoplankton:
saturated and *in situ* uptake rates

1595 Net phytoplankton in a Gulf Stream warm-core
ring: species composition, relative abundance, and
the chlorophyll maximum layer

1615 Vertical distribution of North Atlantic ultraphyto-
plankton: analysis by flow cytometry and
epifluorescence microscopy

1639 Gulf of Mexico hydrocarbon seep communities—
I. Regional distribution of hydrocarbon seepage
and associated fauna

1653 Five drifters in a Mediterranean salt lens

1665 A deep intermediate nepheloid layer

1673 Seawater densities intercompared dilatometrically

- J. J. CHILDRESS 1677 Biology and chemistry of a deep-sea hydrothermal vent on the Galapagos Rift; the Rose Garden in 1985. Introduction
- R. R. HESSLER, W. M. SMITHEY, M. A. BOUDRIAS, C. H. KELLER, R. A. LUTZ and J. J. CHILDRESS 1681 Temporal change in megafauna at the Rose Garden hydrothermal vent (Galapagos Rift; eastern tropical Pacific)
- K. S. JOHNSON, J. J. CHILDRESS and C. L. BEEHLER 1711 Short-term temperature variability in the Rose Garden hydrothermal vent field: an unstable deep-sea environment
- K. S. JOHNSON, J. J. CHILDRESS, R. R. HESSLER, C. M. SAKAMOTO-ARNOLD and C. L. BEEHLER 1723 Chemical and biological interactions in the Rose Garden hydrothermal vent field, Galapagos spreading center
- C. R. FISHER, J. J. CHILDRESS, A. J. ARP, J. M. BROOKS, D. DISTEL, J. A. FAVUZZI, S. A. MACKO, A. NEWTON, M. A. POWELL, G. N. SOMERO and T. SOTO 1745 Physiology, morphology, and biochemical composition of *Riftia pachyptila* at Rose Garden in 1985
- A. BUCKLIN 1759 Allozymic variability of *Riftia pachyptila* populations from the Galapagos Rift and 21°N hydrothermal vents
- C. R. FISHER, J. J. CHILDRESS, A. J. ARP, J. M. BROOKS, D. DISTEL, J. A. FAVUZZI, H. FELBECK, R. HESSLER, K. S. JOHNSON, M. C. KENNICUTT II, S. A. MACKO, A. NEWTON, M. A. POWELL, G. N. SOMERO and T. SOTO 1769 Microhabitat variation in the hydrothermal vent mussel, *Bathymodiolus thermophilus*, at the Rose Garden vent on the Galapagos Rift
- R. A. LUTZ, L. W. FRITZ and R. M. CERRATO 1793 A comparison of bivalve (*Calyptogen magnifica*) growth at two deep-sea hydrothermal vents in the eastern Pacific
- C. R. FISHER, J. J. CHILDRESS, A. J. ARP, J. M. BROOKS, D. L. DISTEL, J. A. DUGAN, H. FELBECK, L. W. FRITZ, R. R. HESSLER, K. S. JOHNSON, M. C. KENNICUTT II, R. A. LUTZ, S. A. MACKO, A. NEWTON, M. A. POWELL, G. N. SOMERO and T. SOTO 1811 Variation in the hydrothermal vent clam, *Calyptogen magnifica*, at the Rose Garden vent on the Galapagos spreading center
- C. L. VAN DOVER, C. J. BERG, Jr and R. D. TURNER 1833 Recruitment of marine invertebrates to hard substrates at deep-sea hydrothermal vents on the East Pacific Rise and Galapagos spreading center

December

Rapid Response Paper

W. B. OWENS, P. L. RICHARDSON,
W. J. SCHMITZ, Jr, H. T. ROSSBY and
D. C. WEBB

1851 Nine-year trajectory of a SOFAR float in the southwestern North Atlantic

Research Papers

A. V. SOLOVIEV,
N. V. VERSHINSKY and
V. A. BEZVERCHNII

1859 Small-scale turbulence measurements in the thin surface layer of the ocean

L. G. DUBOIS and W. L. PRELL

1875 Effects of carbonate dissolution on the radio-carbon age structure of sediment mixed layers

D. HEBERT

1887 Estimates of salt-finger fluxes

R. CONRAD and W. SEILER

1903 Methane and hydrogen in seawater (Atlantic Ocean)

P. SCHLOSSER, E. SUESS, R. BAYER
and M. RHEIN

1919 ^3He in the Bransfield Strait waters: indication for local injection from back-arc rifting

D. A. BOOTH

1937 Horizontal dispersion in the northeast Atlantic

J. C. GOLDMAN, M. R. DENNETT and
N. M. FREW

1953 Surfactant effects on air-sea gas exchange under turbulent conditions

D. B. OLSON, G. P. PODESTA,
R. H. EVANS and O. B. BROWN

1971 Temporal variations in the separation of Brazil and Malvinas Currents

T. IKEDA

1991 Metabolism and chemical composition of crustaceans from the Antarctic mesopelagic zone

L. A. LEVIN and C. L. THOMAS

2003 The ecology of xenophyophores (Protista) on eastern Pacific seamounts

T. FUJITA and S. OHTA

2029 Photographic observations of the life style of a deep-sea ophiuroid *Asteronyx loveni* (Echinodermata)

Note

J. R. E. LUTJEHARMS

2045 Remote sensing corroboration of retroflection of the East Madagascar Current

List of Contents for *Continental Shelf Research*, Vol. 8, Nos 10 and 11

i

Index for Volume 35

